

Little River Watershed Implementation Plan Meeting

May 3, 2011
Drew Miller



Why are we here?

- Present the work of:
 - Working Groups
 - Steering Committee
 - Local groups involved
- Questions and Comments
- Confirm YOUR Support

Agenda

- Introductions - All
- Quick Review of TMDL Process – Drew Miller, DEQ
- Technical Approach & TMDL Study Highlights – Jim Kern, Maptech, Inc.
- New River Water Watchers-Cynthia Hancock on behalf of Courtney Wait (National Committee for the New River)
- Sustain Floyd- Woody Crenshaw and Mike Burton



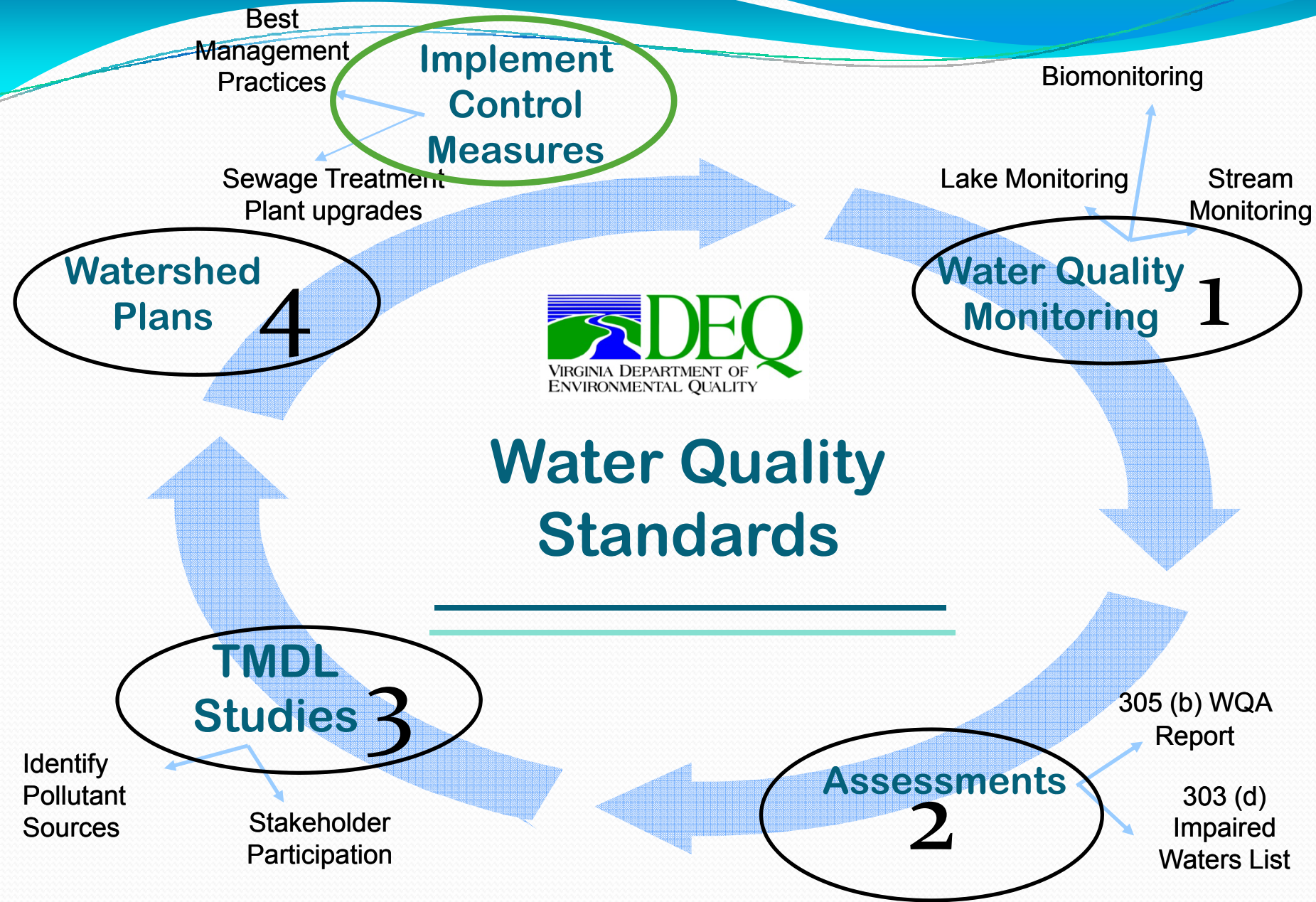
Overview

- Water Quality in VA: The Big Picture
- Water quality problems in the Little River Watershed
- TMDLs
- Little River Watershed Project
- Next Steps

Virginia's Water Quality Standards

- Adopted to uphold the Clean Water Act
- Protects the 6 designated uses: aquatic life, wildlife, fishing, shellfish, swimming, and drinking water



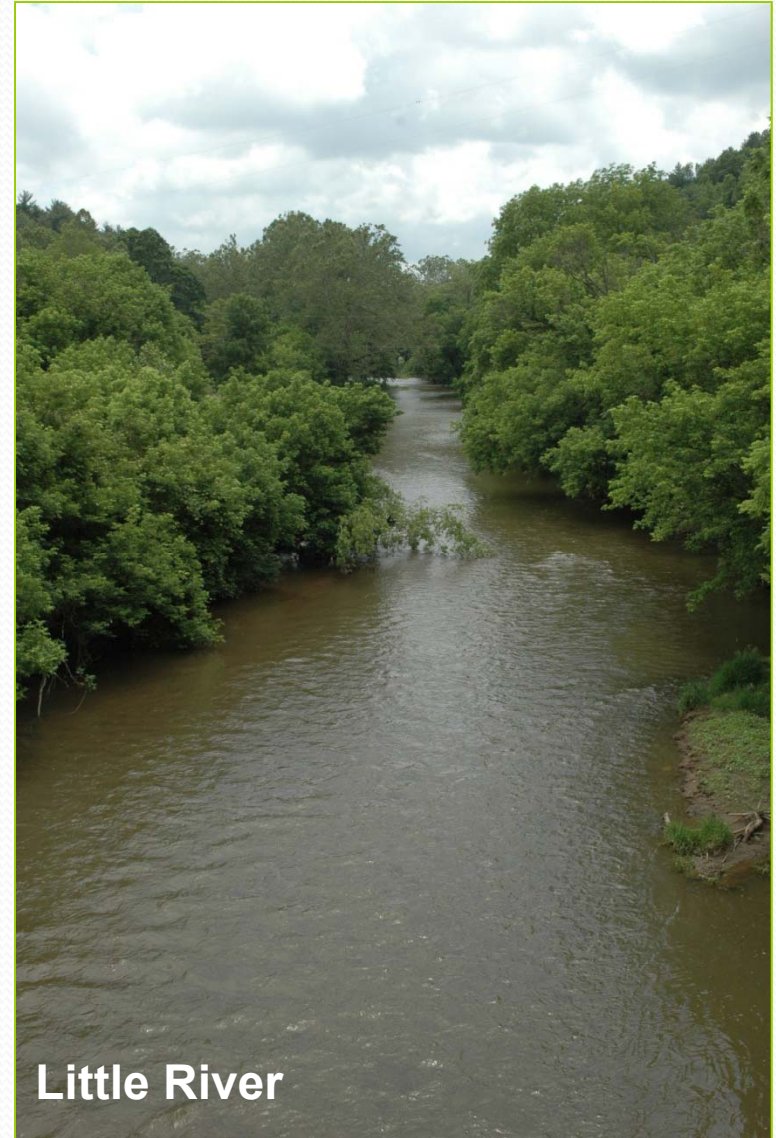


Virginia's Water Quality Standards

- Numeric Criteria
 - Specific Limits
 - Bacteria standard: 235 colonies/100 ml water
 - Dissolved Oxygen: 4 mg/l
- Narrative Criteria
 - General protective statements
 - “All state waters shall be free from substances attributable to sewage, industrial waste, or other waste ...”
 - “All state waters shall be free from substances ... harmful to human, animal, plant, or aquatic life.”

Little River Watershed

- Watershed is approximately 225,000 acres
- Drains into the New River near Radford
- DEQ monitors and assesses water quality throughout the watershed

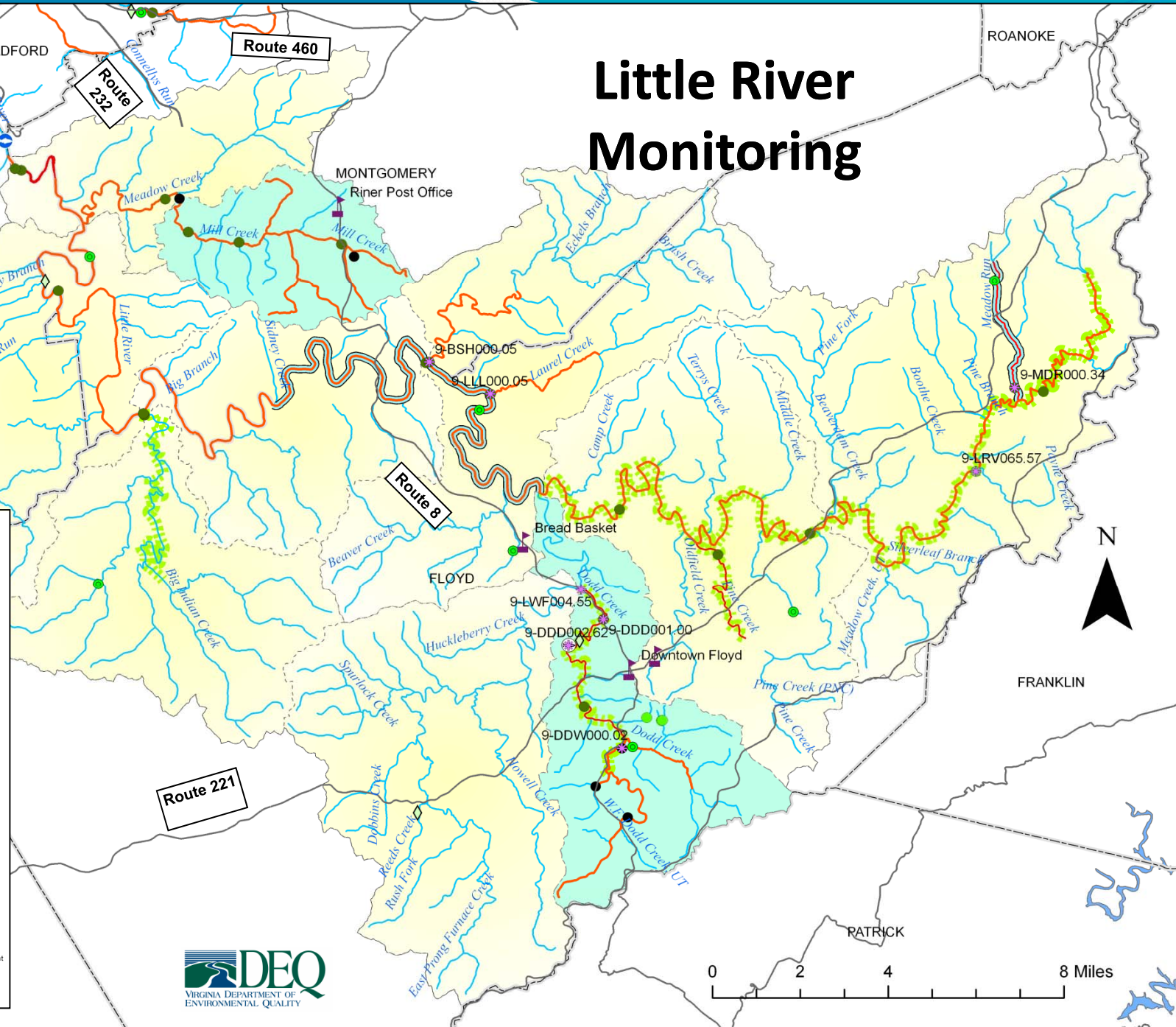


Little River

Little River Monitoring

Legend

- Landmarks
- 2009-10 Ambient Monitoring Stations
- Station Types
 - AW
 - BIO
 - AW/BIO
 - AW/BIO.TMDL
 - AW/BIO.FISH/SED.TMDL
 - BIO.Spec.Study
 - BIO.TMDL.Spec.Study
 - BIO.TREND
 - BIO.TMDL
 - B, TR, C, TM
 - FPM
 - AW.FISH/SED
 - AW.FISH/SED.TMDL
 - BIO.FISH/SED
 - AW.TMDL
 - FISH/SED
 - FISH/SED.Spec.Study
 - CB.TREND.FISH/SED
 - Spec.Study
 - TMDL
 - FISH/SED.TMDL
 - TREND
 - TREND.BIO.TMDL
 - TREND.FISH/SED
 - TREND.Spec.Study
 - TREND.TMDL
 - CMON
 - USFS
 - Bacteria Impairment
 - Benthic Macroinvertebrate Impairment
 - Temperature Impairment
 - TMDL & IP Complete
 - Little River Watershed



Water Quality Impairments in Little River Watershed

- Bacteria
- Temperature
- Benthic Macroinvertebrate Community



Bacteria Impairments

- Little River
- Meadow Run
- Pine Creek
- Mill Creek
- Brush Creek
- Laurel Creek
- Dodd Creek



Bacteria Impairments (



- Fecal Bacteria in Little River
 - What's Fecal Bacteria?
 - Bacteria associated with feces from warm blooded animals (fecal coliform, *E. coli*)
 - Why should we care?
 - Pathogens (including some strains of *E. coli*)
 - Parasites
 - Water Quality Standard
 - Swimming & Fishing Use
 - Instantaneous: 235 cfu/100 ml *E. coli*
 - Monthly Geometric Mean: 126 cfu/100 ml *E. coli*

Temperature Impairments

- Little River
- Pine Creek
- Big Indian Creek
- West Fork of Dodd Creek
- Dodd Creek

Temperature Impairments

- Temperature Standards in the Little River Watershed
 - Trout Waters: $\leq 20^{\circ}\text{C}$
 - Stockable Trout Waters: $\leq 21^{\circ}\text{C}$

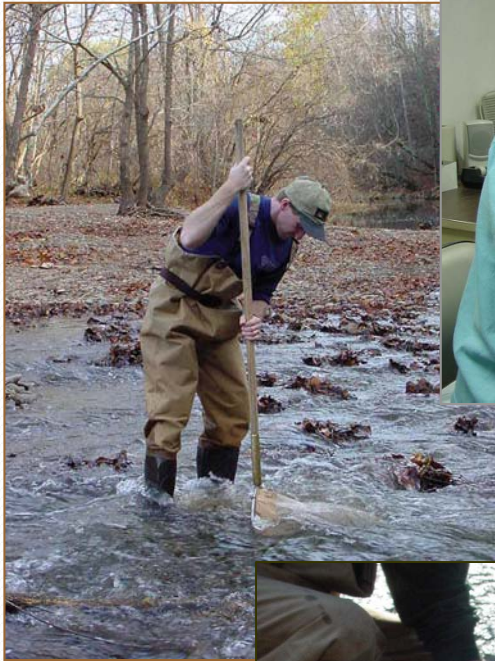


Benthic Macroinvertebrate Community Impairments

- Little River
- Meadow Run
 - Sediment determined to be the stressor



Benthic Macroinvertebrate Community Impairments



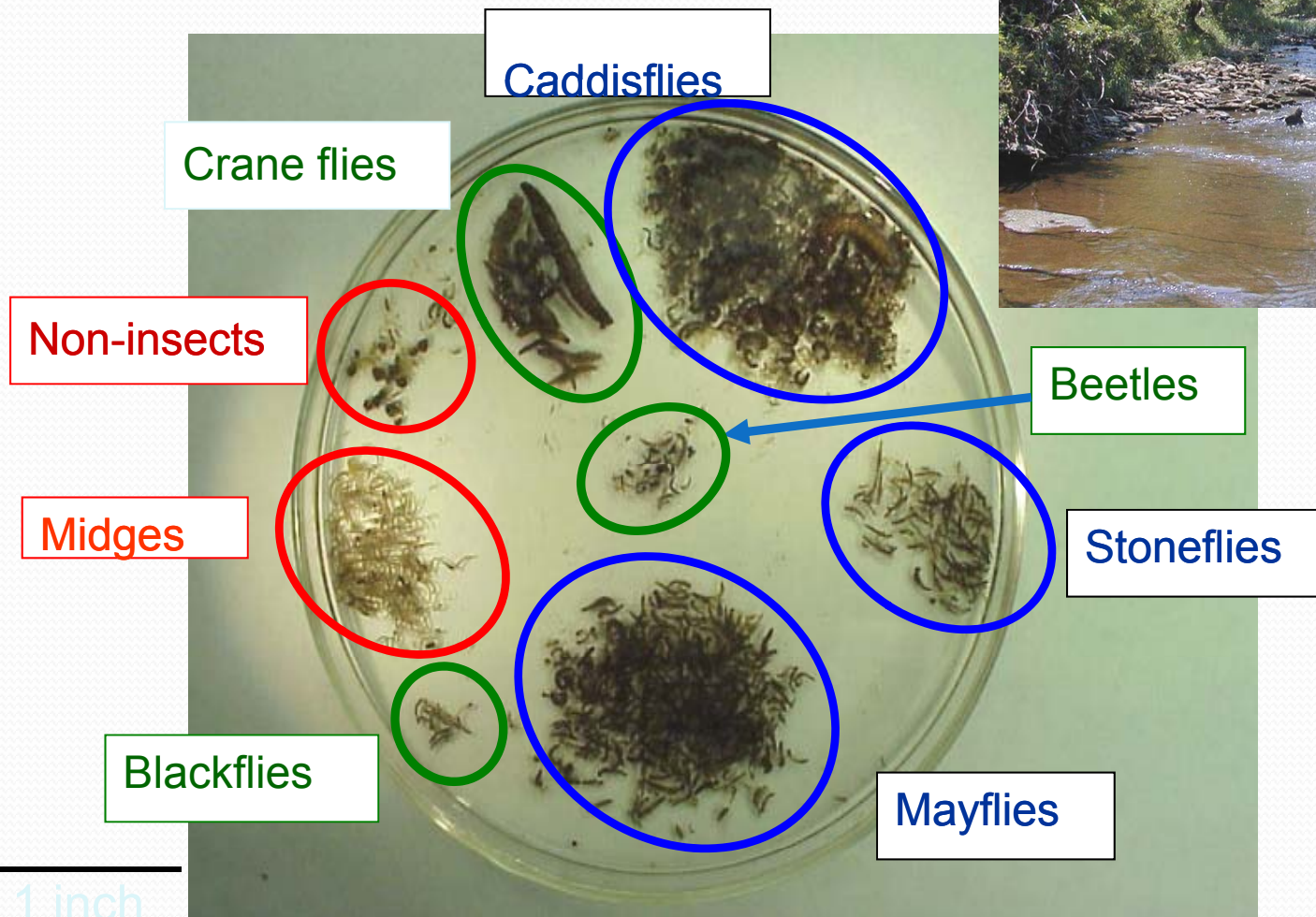
- Based on Biological Monitoring
 - Using aquatic insect communities and habitat to gauge the “health” of a stream
- Certain types of insects require specific habitat and water quality conditions to survive
- Insect communities respond to chronic water quality conditions
- Water quality affects abundances and community diversity
- General Standard applies

An Optimal Community

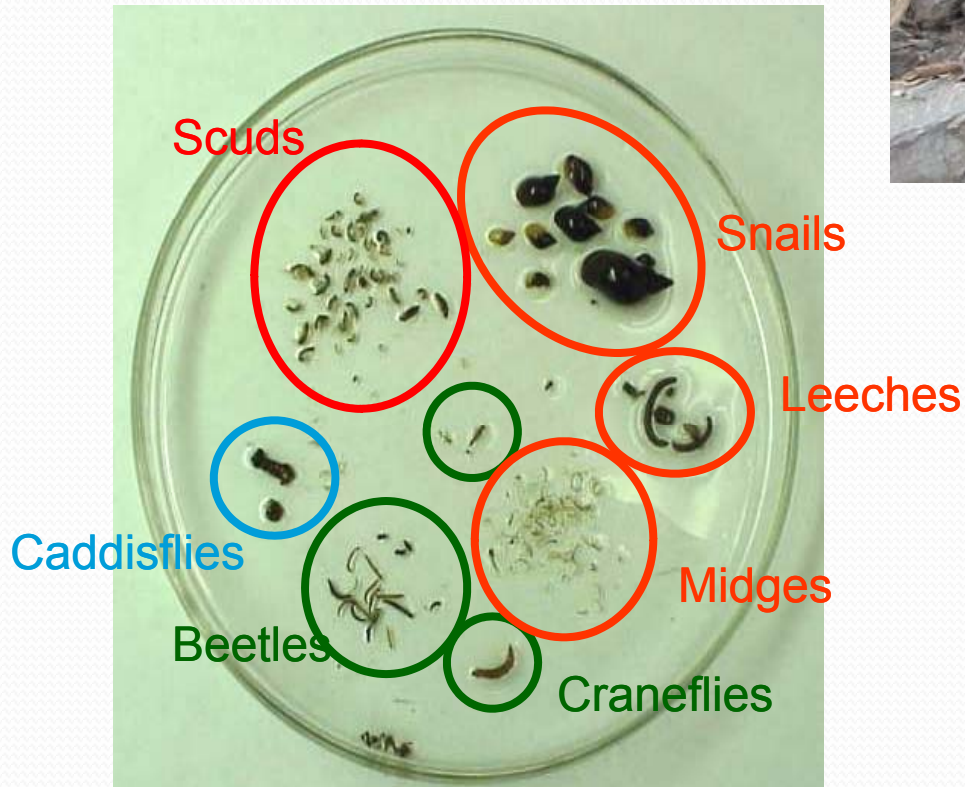


1 inch

Moderately Impacted



Severely Impacted



1 inch

How Does the State Address Water Quality Impairments?

- Total Maximum Daily Load Study
 - TMDL = Special Study
 - Identifies all sources of pollution
 - Establishes pollution reductions
 - Required by the Clean Water Act & Virginia's Water Quality Monitoring Information and Restoration Act

TMDL- 3 Part Process:

- TMDL development/study
- Implementation Plan (Clean-up Plan) development
- Implement the plan

Public Participation



Virginia Association of Soil & Water
Conservation Districts



Little River Watershed Project

- Maptech, Inc. hired to conduct watershed modeling
- Public Participation Opportunities
 - September 28, 2010 Kick-off Meeting, Sinkland Farms
 - March 16, 2011 Meeting, Floyd Library
 - Results of TMDL Study presented
 - 30 Day Public Comment
 - Implementation/Clean-up Plan Kick off!

Little River Watershed Project

Cont'd

- April 20, 2011 Residential Working Group Meeting, Floyd Library
 - Reviewed the required pollutant reductions for the implementation plan.
 - Discussed estimates of residential implementation measures that will result in reductions.
 - Documented existing efforts underway to address bacteria and sediment in residential areas of the impaired watersheds.
 - Identified additional/alternative measures to reduce the bacteria and sediment load that the implementation plan can address.

Little River Watershed Project

Cont'd

- April 21, 2011 Agricultural Working Group Meeting, Floyd Library
 - Reviewed the pollutant reductions that the implementation plan must meet.
 - Discussed preliminary estimates of agricultural implementation measures.
 - Documented current agricultural efforts underway to address water quality in the impaired watersheds.
 - Identified additional/alternative measures to reduce the bacteria and sediment load that the implementation plan can address.

Little River Watershed Project

Cont'd

- April 25, 2011 Steering Committee Meeting Floyd Co. Admin Building
 - Reviewed and discussed results of the Working Group Meetings
 - Reviewed estimates of clean-up measures and costs
 - Identified parties responsible for overseeing the implementation
 - Opportunity for suggestion for changes and additions to the IP Plan



Little River Watershed Project

Opportunities for success

- Incorporates a large watershed
- Plan and practices cover multiple water quality impairments
- Includes Mill Creek and Dodd Creek subwatersheds
 - Already have TMDLs and Implementation Plans developed
- The Watershed's community!

Next Steps

- Incorporate public input from tonight's meeting
 - Public comment period ends on June 2nd
 - All comments go to:

Drew Miller, VADEQ
(540)562.6873

Richard.miller@deq.virginia.gov

3019 Peters Creek Road
Roanoke, VA 24019

- Submit Final Plan to State Water Control Board
- **Continue your involvement!**
 - Begin initial steps outlined in the IP to Clean-Up the Watershed
 - Citizen Monitoring
 - Local group activities
 - Clean-up Teams

Contact Information

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